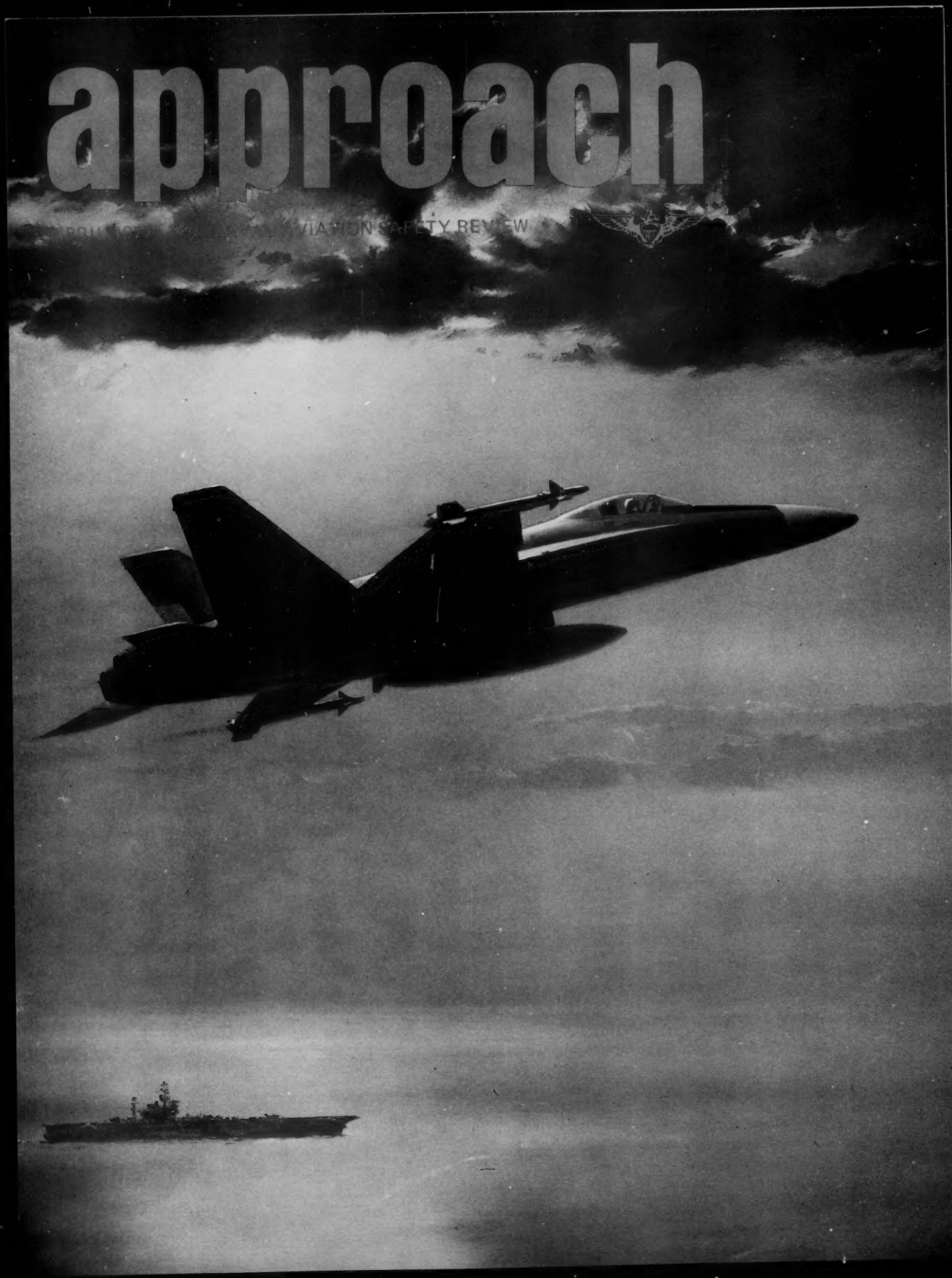
approach



Naval Air and the U.S. Air Force have had a longstanding, usually friendly rivalry, spawned by their different approaches to performing similar missions. Partly because of these differences, a pilot exchange program has been in effect for some time. Exchange pilots benefit themselves and their respective services by studying each other's operating techniques and philosophies of flying. The program has resulted in an effective exchange of operational and safety information.

To discuss the differences between the services, perhaps eliminate some of the stereotype concepts that exist between services, and, most importantly, to gain some insights into the Air Force's excellent safety record, APPROACH writer Richard Shipman recently interviewed an Air Force pilot and a Navy pilot, both of whom had just returned from an exchange tour. APPROACH felt that opinions about safety and operations from the operator's level would provide some interesting insights. Their comments were indeed interesting.

APPROACH would like to make it clear that the opinions expressed in the interviews are strictly those of the individual pilots. They do not reflect the official policy of their respective services. In both cases, the pilots had exposure to only one segment of the total operation, and thus their comments were relative only to the community they were exposed to. Both pilots agreed to the interview with the understanding that their comments were solicited only to improve each other's safety program.

An Air Force pilot talks about Navy operations

THE Air Force pilot asked to remain anonymous. An experienced F-4 pilot, he had his exchange tour with a Navy carrier-based squadron where he achieved the distinction of becoming a "Centurion," making 100 arrested landings during his tour.

APPROACH: What was your general reaction to Navy carrier flight ops?

CAPT X: How about "WOW!" It was really something! All the procedures for carrier ops are written down, but there's no way you can read about them and really know what it's like. I guess I didn't really start figuring out what was going on until I had about 50 landings. Up until then, I was just reacting by rote.

APPROACH: What did you consider the most dangerous aspect of carrier ops?

CAPT X: Oh, night carrier landings, without a doubt.

APPROACH: As an experienced F-4 pilot, what was the most difficult thing you had to adjust to in the Navy?

CAPT X: Probably the landings. I came to the Navy with almost 2000 hours in *Phantoms,* and at that stage of the game, it's pretty hard to change your technique. All those years I had been taught not to abuse an aircraft, and now, all of a sudden, I was expected to plant the aircraft. It's just hard to break habit patterns, particularly after the aircraft has become so familiar to you.

APPROACH: What do you think is the basic philosophic difference between the Air Force and Navy attitudes toward flight operations and safety?

CAPT X: I think the Air Force is more restrictive. The Air Force is specific on what you can do, and everything else is prohibited. The Navy lays out everything you can't do, and the rest is allowed.

APPROACH: What do you think are the operational and safety repercussions of the Air Force's philosophy?

CAPT X: Well, the young Air Force pilot can get into trouble when he finds himself in a position where the procedures have not been laid out for him. Since his flight training is structured, he could get himself in trouble if he gets into an unusual situation without set solutions and procedures. As an extension of this philosophy, the typical young Air Force pilot is probably more cautious in what he undertakes with his aircraft because he doesn't want to approach an unknown regime.

For example, the new Air Force pilot knows departures are not allowed, so he probably doesn't fly his aircraft close to the departure point. The Navy pilot, on the other hand, realizes he is probably going to depart the aircraft inadvertently; he trains for it, and then when it does happen, it is not so unexpected or dangerous.

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A Naval aviator talks about Air Force operations

LIEUTENANT Commander Andy Sewall is a Fleet-experienced, A-7E pilot currently attached to VA-66. He served his exchange tour with the 76th Tactical Fighter Squadron at England AFB, LA, flying the A-7D. During this 2-year tour, LCDR Sewall participated in deployments to the Panama Canal Zone and Barbers Point, HI. He was selected as the Tactical Air Command "Aircrew of Distinction" in March 1975 for his handling of a dual hydraulic failure involving structural failure of the port aileron. Previous Navy assignments include VT-7 (SERGRAD), VA-81, and Naval War College, Newport, RI. He has flown all operational models of the A-7 and has in excess of 1500 hours in the aircraft.

"I would like to preface my remarks by emphasizing that my perceptions and evaluation of the 'safety systems' under discussion are based on a 2-year stateside TAC exchange tour and cannot be related to other Air Force major commands such as USAFE, MAC, SAC, etc. It is not my intent to conclude that one system is superior to the other, but only to identify those elements and operatives at work in each system that have the potential to enhance or complement the safety program of the other service."

APPROACH: What would you say is the major philosophical difference between the operating and safety procedures of the Air Force?

LCDR SEWALL: That is a *big* question! The first difference has to be in how we perceive operational readiness at the local level. Readiness is composed of hardware and personnel maintained at a certain level of proficiency. But the emphasis in each community is different. In the Air Force, the emphasis is on hardware and the conservation of physical assets at the expense of maximum exposure to potentially hazardous situations. This asset conservation is achieved through a vigorous safety system consisting of operational restrictions and regulations designed to limit pilot exposure to more demanding situations until more aeronautical experience is obtained. In the Navy, the complex nature of shipboard operations requires a great deal of aeronautical maturity very early in a pilot's career. We cannot depend on extensive restrictive regulation for protection. We must be exposed to and develop the ability to handle rapidly changing situations early in our training. Both philosophies have their trade-offs.

APPROACH: The Navy goes pretty much by the words "Safety is paramount." Do you feel this is really just lip service?

LCDR SEWALL: If safety were paramount, we'd lock all the aircraft on the hangar deck and look at them a lot. The ability to fly and fight is paramount. Safety during routine

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APPROACH: As a matter of fact, the Navy A-7 RAG initiated a program of intentional departures in February 1975, and since that time, there have been no departure-related accidents.

CAPT X: That's true. The Air Force has approved a comparable program for its A-7s.

APPROACH: Back to your earlier comment – are you saying, then, that Air Force pilots don't fly their aircraft to the limit of the envelope?

CAPT X: I don't think you can categorize *all* Air Force pilots. The best pilots in the Navy and the best pilots in the Air Force are probably about the same, because there is only so much you can do with an airframe. And the worst pilots in the two services are about the same, too. But the average young Navy pilot probably does more with his aircraft than does his Air Force counterpart, simply because he has been allowed to do more, from his training days on. Solo ACM in the Air Force training command, for instance, is completely unthinkable.

APPROACH: That's an interesting point, because every time the Navy has an accident, such as an ACM/stall/spin type, the move is to become more restrictive. For instance, after several such losses, our training command actually cut out all solo ACM hops and required instructors to ride with the students. The solo program was eventually reestablished, however.

CAPT X: That's the Air Force approach. When an accident occurs, the tendency is to add a new restriction or regulation. We are going to crash a few aircraft in the process of getting combat-ready. The trick is to minimize the losses while maximizing the realistic training.

APPROACH: How do you think a less restrictive policy affects the Navy's safety program?

CAPT X: I would think it would be advantageous, since the pilot would be better able to cope with unusual situations.

APPROACH: How do you account, then, for the fact that the Air Force has a better safety record than the Navy, even if you remove the carrier-based statistics and compare the same shorebased aircraft?

CAPT X: Is it really? I wasn't aware of that. I'm not really sure what the explanation is. I think maintenance is a factor. I would say that the overall condition of the aircraft in the Air Force was better than it was in the Navy. I'd say that 50 percent of the aircraft I manned in the Navy could have been downed by Air Force standards – things like hydraulic leaks. The Air Force seems to be stricter on its aircraft preflights and postflights, and fixes the small problems before they become big problems.

APPROACH: But you flew the aircraft because you wanted the flight time, just like the Navy pilots.

CAPT X: Yes, I did. I'm as much of a flight time hound as the next guy. Besides, when in Rome, do as the Romans do!

APPROACH: How do you explain the difference you experienced in Navy and Air Force maintenance?

CAPT X: I think the training the Navy enlisted men get isn't on a par with what the Air Force technicians get. Or if he does get the training, other factors prevent him from developing in a comparable fashion. For instance, the Air Force mech gets an intensive schooling in the area of his specialization just prior to reporting to his maintenance outfit.

APPROACH: The Navy has A schools that are attended by selected individuals right out of boot camp.

CAPT X: Yeah, but then look what happens. He gets assigned TAD to mess cooking for 3 months, then to first lieutenant for compartment cleaning, and then he goes into the shop. By that time, he's probably forgotten an awful lot. His subsequent training is then pretty much in the hands of the shop – OJT. The Air Force technician goes right into a shop after his formal training without these long breaks.

APPROACH: What other duties and responsibilities does the Air Force technician have, in addition to maintaining aircraft?

CAPT X: That's about it. The Air Force has specialized forces such as security police that relieve the technicians of many of the military duties required of Navy personnel, particularly aboard ship.

APPROACH: How did the availability of aircraft rank in the Air Force versus the Navy?

CAPT X: Well, the Air Force works under a different concept of maintenance than the Navy, but I'd have to say the Air Force has better availability. Take, for example, the RTU [Readiness Training Unit, comparable to the Navy RAG]. When an Air Force jock reports aboard a RTU, he is told the exact day he is going to complete, and he finishes on that date. The Navy pilot, on the other hand, is not sure when he is going to finish the RAG, and his completion date is subject to many changes. There were some first tour types in the RAG when I went through that had been there in excess of 1 year, primarily, I would say, because of aircraft availability. That's great for their golf game, but it doesn't do much for their flying.

APPROACH: The common impression in the Navy is that the Air Force has virtually unlimited funds, so while the Navy has to make do with what it has, the Air Force can buy all the spare parts, GSE, etc. that they need. Do you think this is an accurate portrayal?

CAPT X: I'm not really qualified to comment on budgetary matters. But I've heard this argument before –

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peacetime operations is only a means of ensuring that we have the assets and personnel required when the need arises.

Because the services do have a different emphasis, as previously indicated, a simple comparison might serve to illustrate the point of our "lip service to safety." If a situation arose where an aircraft had a discrepancy in the "gray area," the Air Force pilot would usually sway toward the safe decision and use a spare or cancel the hop. On the other hand, a Navy pilot would lean more toward completing the mission, even if a spare were not available. In this instance, the desire to complete a peacetime mission overrides the considerations of safety. In that respect, we have "lip service."

APPROACH: Why do you think the two services approach this matter differently?

LCDR SEWALL: The divergent philosophies mentioned earlier are reinforced by a system of organizational rewards. In the Navy, while the safety record is supposedly important, the promotion and major recognition goes to the commander whose unit flies the most hours, drops the most bombs accurately, or has the most arrested landings. We quantify performance and readiness with these values. In the Air Force, I feel the promotions go to the commander who performs, but performance is measured in terms of the greatest production with the fewest deviations from established regulations. The regulations, when followed, are designed to ensure the safe completion of the mission.

APPROACH: How do Air Force flight operations reflect the different philosophies they have?

LCDR SEWALL: The Air Force has a system of directives which is fairly restrictive in nature [compared to Navy counterparts] and an all-pervading system of standardization that ensures that all squadrons will function identically. Regulations and standardization are monitored by an agency external to the squadron command to ensure compliance.

For instance, they have specific weather minimums for entering a target range. They have different launch/recovery minimums for pilots with different experience levels. They do not allow touch-and-go landings in single-seat aircraft. They are not permitted to fly overhead, 360 approaches at night. These restrictions are established by the major command and are strictly enforced. They have "boldface" emergency procedures which each pilot must successfully test on each week. It's a routine test, but mistakes are not permitted. In the event of an error, pilots are required to successfully retake the test prior to their next flight. These are just a few examples.

On the other hand, the Navy has OPNAVINST 3710, NATOPS, and squadron SOPs, which vary from command to command. Our standardization and restrictive regulations are minimal, thereby providing maximum opportunity to exercise "pilot prerogatives" and individual command preferences in our daily operations.

APPROACH: What effect does this have on the individual pilot?

LCDR SEWALL: The Air Force system reduces many of the pilot's prerogatives we enjoy in the Navy. Because there are so many regulations, initiative in the younger pilots is temporarily blunted until they learn to cope with the system. In the Navy, we have minimal direction. Our younger aviators are faced with the everchanging and complex environment of the ship. So, they too are preoccupied initially, but for different reasons. In everyday terms, if a Navy and Air Force flight were approaching a target range and the weather was terrible, the Air Force range control officer on duty at the target [a rated pilot] would normally not permit the flight to enter the restricted area; the Navy flight leader could go take a look and make his own decision on whether or not to operate.

APPROACH: Do you think this degree of standardization is good for safety and operational readiness?

LCDR SEWALL: From a safety standpoint, I'd have to say it's very effective. The Air Force has the safety record to prove it. If you limit exposure to hazardous situations, you bend fewer airplanes. You can go too far, however, and so limit exposure in the name of safety that you actually reduce the capability to perform effectively. A specific instance of this phenomenon was, during my tour [1973-75], low-level nav routes were restricted to no lower than 1000 feet. Safe, but hardly effective preparation for flying between the deck and 200 feet. [They have since adopted a more realistic 200 feet.]

Conversely, in the Navy, because of minimal restrictions, we do have the opportunity for more hazardous exposure and, consequently, bend a few more aircraft. The trade-off is that when we have to be there for real, we will have seen it before and, hopefully, be more effective, but with fewer total machines initially available.

APPROACH: What was the hardest thing for you to adjust to in the Air Force?

LCDR SEWALL: I'd say it was the extensive body of regulations and the absolute insistence for compliance with those regulations. It is a formidable task to learn all the regs and how they apply. I recall a situation on my annual "Tac Check" where the scoreable target was closed for weather. I proceeded to the unscored tactical range, obtained a range time from the command post, and dropped the bombs using the prebriefed deliveries. In the debrief, the checkpilot awarded me a "down" because I had performed an unbriefed alternate mission by using an unbriefed target, even though I had complied with all procedures peculiar to

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that the Navy has to buy ships, submarines, etc. – and I'm not sure it's valid. The Air Force has to buy missiles and other nonflying material, too. Without being an expert, I'd say the Air Force supply system seems better. We rely on computer listings, so if a high priority part is needed, it can be located anywhere in the world and can be available ASAP, if the priority demands it. I realize the awesome logistics problems a carrier poses, however.

APPROACH: The Navy has traditionally prided itself on its can-do attitude. Do you think this has any impact on the Navy's supply system?

CAPT X: Certainly! Since the Navy is apparently willing to accept less than full system aircraft or less than completely operational support equipment, there may be no real pressure to get the problems fixed in a timely manner. If that pressure were applied, I think the situation would improve. For example, my squadron had been having trouble getting up radar systems. Therefore, we decreed that the aircraft was not up unless it had an operable radar system. We then put the onus on AIMD to provide the up systems. After our op-ready rate went down and the responsibility was attributed to AIMD, we started getting results.

APPROACH: How about GSE? I've heard that GSE in the Air Force can be moved only so far, and if the appropriate unit is down, the flight does not launch. This puts pressure to ensure sufficient and ready GSE.

CAPT X: I'm not really familiar with that procedure, but I will say this. The GSE was bad at the NAS where I was stationed. Every morning, the squadrons would line up at the GSE pool and end up drawing one tractor and one huffer for the whole squadron. More often than not, it was in tough shape. I just shook my head somedays when I saw the equipment hooked up to my aircraft, but as the driver put it, "Do you want a start or not?"

APPROACH: Let's talk some about Air Force flight training. How would you compare the first tour Navy aviator with the first tour Air Force aviator?

CAPT X: As I mentioned before, I think the Navy first tour pilot has been allowed to do more, so he is probably somewhat more capable when he first joins a squadron. The difference narrows with experience, however.

APPROACH: What was your overall evaluation of the first tour naval aviator?

CAPT X: Very impressive.

APPROACH: Once a pilot gets his wings and joins a squadron, how do the Air Force collateral duties [nonflying] compare with the Navy's? Since the Navy operates under the philosophy that its pilots are officers first and aviators second, our junior pilots have considerable administrative duties right from the start of their careers.

CAPT X: Overall, I'd say that the Air Force junior pilot has less to do, although there are many additional duties which detract from the flying mission. We don't have branch and division officers, for instance, because maintenance is removed from the immediate squadron activity. We do assign things like nuclear safety officer. On balance, I'd say the junior Navy pilot has considerably more nonflying duties, but it is getting tighter all the time in the Air Force. Once the Air Force pilot gets to the senior captain/major level, the administrative duties are comparable.

APPROACH: Do you think the Navy system of collateral duties affects safety?

CAPT X: I think it's probably better to concentrate more on flying in the first years after designation than on administration. I really wonder if there is a need for some of the junior officer duties that are assigned to Navy junior officers. Does a squadron really benefit from having a

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that range. His reasoning was that regulations specifically prohibited performing any maneuver or mission not specifically discussed in the brief. Proper procedure would have been to recover and reschedule the check. I thought completing the check was more important.

APPROACH: You have mentioned deviations. What do you mean?

LCDR SEWALL: The Air Force works out a master schedule of maintenance and operations for a month at a time. This is resolved into a weekly schedule that delineates aircraft tail numbers, block times, mission, configurations, and pilots. Minor deviations from the schedule occur and are allowable. Major deviations are reportable to higher headquarters and are considered unfavorable. The goal of the wing is to minimize deviations while logging the necessary number of hours/sorties required to support the pilot population.

APPROACH: How does this affect flight operations?

LCDR SEWALL: Because maintenance and operations are separate command functions, their day-to-day concern is to minimize their deviations in-house. There is not always agreement on who should buy a deviation, and this could result in the pursuit of separate goals. The wing boss usually motivates the players to a common goal. The rigidity of the system leads to some loss of local flexibility and responsiveness. I recall a situation where I was scheduled to lead a four-plane DCM ride. Careful preflight disclosed the presence of MERS and practice bombs, which would preclude any DCM training. When I requested the download, the initial reaction was that ops scheduled the ordnance, so we could fly the ordnance or ops cancel. Maintenance was initially unwilling to buy the deviation. The matter was resolved, and we did eventually go flying on the scheduled mission with clean spares scheduled against an afternoon block.

APPROACH: How about the quality of Air Force maintenance and its obvious bearing on safety. The Air Force pilot I talked with said he could have downed 50 percent of the aircraft he manned in the Navy, if he went by Air Force standards.

LCDR SEWALL: That may well be true, but again, it's a reflection of their philosophy as opposed to ours. They will normally operate on the side of safety. Their system of consolidated maintenance and preplanning provides adequate availability of truly full systems aircraft. You must remember, however, that most scheduled maintenance is subtracted from available assets prior to supporting a daily sortie rate. While this results in underutilization by our standards [if it's up, fly it], it does allow for an orderly program with a surge capability should the need arise. It alleviates a lot of crisis cannibalization and, therefore, could be considered safer. I was usually provided with clean, full system aircraft that broke down at the same rate as Navy A-7s. There were also times when we were cancelled because of nonavailability. As an added note, I should say that consolidated maintenance is a luxury of a permanently shorebased operation and could not meet the demands of shipboard ops.

APPROACH: I can see how this would cut down on your missions, but it seems like a more organized system than ours, what with write-ins, add-ons, slide, and last-minute changes.

LCDR SEWALL: Their flying management system has a lot to recommend it. Their daily requirements are based on so many hours/pilot/month. Any flying in excess of this target is considered unnecessary. Consequently, you're not always required to fly every aircraft you own. Unscheduled maintenance can change this to some extent. Since pilots know several days in advance what they will be flying, they have more than enough time to adequately prepare for the mission. I have the feeling that Navy squadrons are always maxed out. Our philosophy seems to be that the enemy is perpetually storming the Statue of Liberty. We drive maintenance to give us as many up aircraft as possible; then we fly them as much as possible. Our goal seems to be "as much as possible." I feel it might be more beneficial to set realistic goals and plan to meet these goals. Would we lose rapid response, flexibility, and instant readiness? I don't think so, because the "operators" and not the "maintainers" would be setting those goals.

APPROACH: What do you suppose would happen if the Air Force had to respond to a short notice operational requirement?

LCDR SEWALL: I can assure you from firsthand experience that the Air Force can have its squadrons ready to launch to any runway on earth in 24 hours. They practice mobility on a regular basis and must meet strict mobility requirements during every ORI. On a less global scale, their local response can be impressive. One night, I had just returned from a night bombing hop when the word was passed that a pilot had ejected on the range. Ops was launching some flare birds to assist in the search. Twenty minutes after we'd vacated the cockpit, those same birds were refueled, preflighted, and loaded with flare pods ready for launch. The normal scheduled turnaround is about 4 hours. So they can respond. However, the longer they stay maxed out, the tougher it gets to comply with all the regs.

APPROACH: How do Air Force pilots stack up against Navy pilots? Do they fly their planes to the limit?

LCDR SEWALL: It depends on the experience level. There is no detectable difference, generally speaking, from middle grade lieutenants/captains on up. The junior pilots are where I noticed a difference, but it's not necessarily in stick

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nugget JG as radar branch officer, for instance? The chief is certainly more knowledgeable in the systems and has displayed leadership and management ability; otherwise, he wouldn't be a chief.

APPROACH: The rationale is that he is being groomed for division officer, then department head.

CAPT X: I realize that, but the Air Force has no comparable system, and we seem to produce middle managers of comparable ability without this experience.

APPROACH: How about the Air Force career patterns? The naval aviator today can expect only two flying tours before he screens for command. Thus, he can be in a nonflying status for as many as 5 consecutive years early in his career, pursuing a subspecialty or performing in a disassociated tour. Does the Air Force work on a similar basis?

CAPT X: Not really. The Air Force spends a lot of money to train its aviators, so it wants to get the most flying out of them possible. A typical career pattern is to stay in a cockpit for 7 to 10 years after designation, then have a nonflying, rated specialty tour. Right after that, though, you can expect to go back to a cockpit, assuming you're still a charger. Thus, I'd say the average 20-year man probably spends 14 to 16 years in a flying billet.

APPROACH: Since the Navy's philosophy is that you're an officer first and a pilot second, the officer fitness report has just one block evaluating aviation ability. Is this the way it is in the Air Force?

CAPT X: Not to the same extent. You are considered a pilot first, and your efficiency rating [fitness report] is more extensive on aviator qualities than in the Navy. In the Air Force you have to perform administratively, too, but I've known many aviators who have gotten along in the system very well by being strong aviators and average administrators.

APPROACH: What recommendations would you have for Navy safety?

CAPT X: That's a question I was asked often, and it's a hard one to answer. I just can't get over how dangerous the flight deck and carrier flight operations are. From a pilot's standpoint, I think ACLS is the wave of the future. It needs to be perfected and used routinely. I also think you need to keep pounding flight deck safety for the flight deck troops.

APPROACH: How about the Navy's formal safety program? How effective did you think it was?

CAPT X: I'm reluctant to make comments about the Navy's formal safety program because I was exposed to only one or two squadrons, and their programs may or may not have been typical of Navywide safety programs. However, my impression from these squadrons was that the safety program could be more ongoing. In other words, it seemed that every time we had an accident, a safety standdown was the answer. And every time we laid off flying for a while, a safety standdown was the answer. We had so many of these intensive 1- or 2-day safety shots that they lost their effectiveness.

APPROACH: How do you think we can improve the maintenance problem that you discussed earlier?

CAPT X: This is a problem. By nature of the Navy's operations, you have to maintain a mobile maintenance organization, and you have a host of nonrelated functions for your maintainers to perform. I would think that the Navy could move toward making its maintenance personnel more exclusively maintenancemen. I don't know how you can expect a man to fix aircraft for 12 to 16 hours a day and then send him off to patrol the hangar or flight deck for the rest of the night. I realize that carriers are constrained by the number of personnel they can hold, but establishment of specialized forces such as the Air Force has, might nevertheless still be feasible.

I'd like to emphasize that it's really hard to equate Air Force and Navy safety programs and operations since they have some very basic requirement differences. What works well for the Air Force might be totally unworkable for the Navy. I think, however, that each service can learn from each other, and that's the purpose of the exchange program. I really enjoyed my tour with the Navy, learned a lot from it, and wouldn't have done without the experience for anything. ◄

and throttle ability. The Navy nugget is thrown out of the nest and required to do things a lot earlier than the Air Force nugget. Thus, the maturation process is more rapid in the Navy. The USAF can afford to bring its junior pilots along more slowly because they enjoy the relative stability of shorebased ops. They can and do leave junior pilots at the end of the runway if the weather falls below the minimums established for their experience level. We can't leave a pilot on the catapult if the weather goes below his minimums. We cannot afford to lock the deck because one pilot is less experienced than another.

APPROACH: How would you feel about consolidated Air Force/Navy flight training?

LCDR SEWALL: I looked into that proposal with the Navy Advanced Training Command while on my exchange tour. There might be some merit to a combined program for the very first part of the program where all you learn is "stick back, airplane up," if it costs less than our current program. After that, we must go our separate ways. The system of safety through restriction affects an aviator's entire approach to flying. If we are going to continue to expect nuggets to perform at the ship without supervision on their first tour, then you must continue to give them the training, exposure, and latitude in the cockpit that we have in the past. The limitations used by the Air Force in UPT [Undergraduate Pilot Training] would not provide an adequate background to cope with the multiple variables of shipboard operations. Our separate philosophies in this area are really divergent. The Air Force believes in the universally assignable pilot with little or no initial regard for mission expertise. The Navy believes in the resident expert approach, which is ultimately reflected in the requirement to establish a warfare specialty [VA/VF, etc.] as a prerequisite for command. The UPT approach provides little mission skill. The multipipeline concept maximizes mission skill. Both systems can teach people to fly very well.

APPROACH: How about money? Does the Air Force have the unlimited funds and resources that we Navy pilots think it does?

LCDR SEWALL: That is really a myth. I think it's more a matter of the operators putting the pressure where it's most effective. They do not try to skirt regulations or compensate for shortages in the name of simple sortie production. When we in the Navy succeed in circumventing material deficiencies, the problem area doesn't get much attention since the sortie completion rate has remained unchanged. In short, the operators have encouraged the "can-do shoestring" by failing to admit to themselves that there are times when "regret unable" would do us more good in the long run than "can-do." Our current system of values and rewards makes the more sensible approach untenable.

I took an Air Force detachment of four A-7s to Panama to fly close air support for the U.S. Army. During operations, the RSO [runway supervisor officer] cart UHF radio failed. The runway supervisor is required by regulation to be on station for every takeoff and landing, and he must have two-way communications with the departing and arriving aircraft. His function is to monitor takeoff and landing configurations and act as a procedure reference for any inflight emergency that may occur. His entire function is safety oriented. When the RSO radio failed, my first reaction was to press on and continue flying. Second thoughts dictated that I call back to headquarters for "guidance" [when in Rome, do as the Romans]. I offered the alternative procedure of assuming RSO duties from the tower until the radio was repaired. The reply was to cease operations if suitable RSO facilities could not be maintained as required by the regs. The point is that they were willing to call off ops if they couldn't abide by regs concerning safety. When ops stop or slow down, there is no lack of visibility, and required material is usually forthcoming. This is a tenable response because they reward commanders who follow the regs. They also have cleverly written their material requirements into the regulations.

Had this been a Navy operation, I feel we would have done without the radio and continued operations. The sortie rate would remain unchanged, and the local operators would complain about never having the right equipment available to do the job properly.

APPROACH: What Air Force concepts would you like to see adopted by the Navy?

LCDR SEWALL: During flight ops, the Air Force has several layers of supervision in effect in addition to the pilot in command. They are the runway supervisory officer, supervisor of flying, and range control officer. These people are responsible to the wing boss for the orderly and safe execution of the flight schedule. If a study could demonstrate that these additional levels of shorebased supervision are effective in reducing accident potential, then we should at least investigate them. NATOPS checks and written examinations could be conducted by an agency external to the command to improve their objectivity.

APPROACH: How can the Navy improve its formal accident prevention program?

LCDR SEWALL: One way would be to get more objective accident board reports by changing our investigation procedures. Accident investigations might be conducted by boards composed of people external to the command that suffered the accident. The command should have a representative on the board, and the usual endorsing procedures could remain in effect. The Navy tends to use

the "white hat" approach to safety. We bend over backwards to prevent casting a bad light on the pilot or command in question. Even when serious fault is identified, rarely does anything more than a wrist slap occur. There is no real deterrent to supervisory error. The Air Force uses the "black hat" approach. When investigators identify serious supervisory error as a major contributing factor to an accident [and they do in about 35 percent of the cases], recommendations are made that will normally result in those personnel responsible for the discrepancies being relieved. Not an altogether happy thought, but powerful motivation to comply with all regulations and requirements. Hence, you don't find anybody missing instrument school, simulators, etc.

APPROACH: What would this type of philosophy do to the voluntary contribution of information the Navy encourages in its accident investigations?

LCDR SEWALL: It might inhibit it to some extent. But with today's state of the art, we really don't have to rely that heavily on survivors' statements when the wreckage can be recovered. In the case of fatality and unrecovered wreckage, the records would have to do most of the talking. I'm not convinced that we get much voluntary information that's worth anything. In a recent fatal accident, the pilot was endorsed as having exceptional qualifications. The undercurrent of professional opinion was that he was not a strong aviator. Had this previously been made known to the proper people, the accident might have been prevented.

APPROACH: Did you enjoy your duty and find it worthwhile?

LCDR SEWALL: Most emphatically, yes! It provided me with a whole new experience in aviation and exposed me to new concepts that were very worthwhile.

APPROACH: Do you have any other suggestions for improving the exchange program itself?

LCDR SEWALL: If the word "exchange" is to be meaningful, then exchange pilots returning to the parent service and community should be required to provide a worthwhile debrief so that new ideas can be explored. If we are going to get the most out of the program, we should be above petty, interservice jealousies and listen closely to suggestions, regardless of where they come from. There are several outstanding examples of this effective exchange. The Navy A-7 community has adopted the Air Force concept of time-critical emergency procedures. The Air Force and Air National Guard have just recently adopted the Navy A-7 departure training program, virtually verbatim from the VA-174 syllabus. While I was with the 76th, we developed an entirely new approach to defensive A-7 tactics which was subsequently adopted as a standard wing tactic. The people I worked with were most receptive. Somewhere out there in Air Force land is a point paper recommending the introduction of touch-and-go landings for Air Force A-7s as a means of improving junior pilot proficiency. I have high hopes that it is receiving serious consideration. [Gary, keep on truckin'.]

APPROACH: One final question: Are you glad to be back in a Navy Fleet squadron?

LCDR SEWALL: I think flying an aircraft off and on a ship is the greatest physical thrill you can have (well, almost). In addition, I firmly believe that seaborne tactical air power is the leading edge of the U.S. conventional deterrent, and, as such, we play a vital role. [The reader may now have recognized a slight loss of objectivity!] With job satisfaction like that, you gotta like driving to work in the morning. I'm glad to be back. Now, if we could just wear our flight jackets . . . ◄

AIR BREAKS

PEL* Inspection. The HAC of an H-46 was advised by an extra pilot aboard that smoke was emanating from the mix box input shaft on the No. 1 engine side. Even though all cockpit gages were normal, the HAC elected to make a PEL in an open field to investigate the situation.

The crew had departed Homeplate, proceeded to a nearby base for a passenger drop, and was headed for another base before returning to Homeplate. They became aware of a strong odor, resembling that of a skunk. The odor persisted, and the HAC sent the extra pilot to investigate.

After touchdown, with both engines running, the HAC went aft to inspect the transmission area. No smoke or odor was evident at the time. He surmised that the smoke and odor were probably associated with the bearing lubrication on the No. 1 engine high speed input shaft.

Even though there was no evidence of anything wrong, the HAC decided to abort the rest of the mission and return to Homeplate. After liftoff a small amount of smoke reappeared, so the HAC decided to secure the No. 1 engine.

Following selection of manual throttle and starting the APP, on short final the HAC tried to beep down the No. 2 engine. It wouldn't respond, so he waved off, and while downwind he regained normal throttle. The tower transmitted that a set of doors were either open or missing. The HAC had not made an external inspection while in the field and had no idea that the missing doors might have been the problem. He continued his approach and made a roll-on landing.

The H-46 had suffered damage after the inflight opening of the forward clamshell doors on the aft pylon. A complete hinge failure on the port side allowed the door to rip off the helicopter. As it departed, the door struck the port engine cowling, and a segment of the exhaust duct aft rim was crimped inward into the No. 1 engine exhaust path. Part of the hot gases were diverted back into the engine compartment. Excessive heat built up in the engine compartment had melted some of the plastic covering on the fuel topping adjustment cable. The heat also melted identification tape on several lines in the vicinity of the turbine casing.

The starboard clamshell door also opened, but it didn't rip off. However, both upper and lower hinges were broken and several rivets were loosened on the door. The probable cause of the doors opening in flight was incomplete security of both auxiliary latching straps by the crew during preflight.

* Precautionary Emergency Landing

The squadron recommended that continuing emphasis be given on the importance of doublechecking the security of the latching straps during preflights. The endorser opined that the doors must have opened shortly after the crew made their passenger drop, but he was unable to account for the absence of noise, buffeting, or unusual vibrations that would have given a clue.

Pilots are encouraged to take the time to conduct a good inspection any time a PEL is made. If there's reason enough to land, prudence dictates a reasonably thorough inspection – inside and out!

Emergency Landing. LT John C. Bollin, instructor pilot, and his student, ENS S. C. Waldruff, were on a basic instrument flight in a T-28 when problems arose.

The first indication of a sick engine was a flickering sump light. LT Bollin turned toward NAS Corpus Christi, selected low blower, and started to descend from 14,000 feet for a PEL (precautionary emergency landing).

The flickering sump light turned to steady, and the generator failure light came on. The instructor secured inverters and nonessential equipment in accordance with procedures and declared an emergency. As they descended through 11,000 feet the prop began overspeeding, peaking at 3000 rpm. It was controlled by decreasing airspeed from 170 to 130 knots.

At 8000 feet over the field, the *Trojan* incurred severe vibrations. The crew heard a loud bang and noted their engine had failed – RPM and oil pressure dropped to zero. However, the prop continued to windmill. Then the upper portion of the engine cowling separated.

The instructor pilot was not distracted by these events. He continued to descend, spiraled to high key, put his gear and flap handles down (although the flaps remained up, the gear dropped), and made a no-flap landing on Runway 13R. He stopped the T-28 with 2000 feet of runway remaining. The aircraft was towed to the line.

The engine had failed catastrophically, resulting in a ruptured gearbox, bent push rod housing, total loss of oil, and a twisted and sheared prop shaft. The cowling separation was due to severe vibrations and slippage of the shear pins.

LT Bollin's prompt response to the compound emergency and professional airmanship resulted in saving his aircraft. Attaboy! ◄

Bombs Away!

DURING VERTREP ops, a pilot was transporting 500-pound bombs from the pier to a ship. On previous deliveries, the aircrewman had had trouble with the manual pendant release. The first few times, he managed to physically release the cargo hook. On the 53rd of 54 circuits, the aircrewman tried to release the load by rotating the manual release knob. The hook didn't release. When he experienced further difficulty, he decided not to take a chance on possible personal injury. Instead of requesting the pilot to use the emergency cargo release handle (as per NATOPS procedures), he assumed the hook was hanging up and devised a makeshift release method. It worked the first time, probably because the hook released automatically with tension reduced.

When the problem surfaced again, he assumed the makeshift method would work. He reported, "Cargo on deck, hook released, cleared to move off." At the same time, the pilot observed the LSE's "move off" signal and started to lift the aircraft.

As soon as they started moving, the aircrewman realized the pallet and pendant were still attached. He shouted, "Hold steady! We're dragging the pallet!" The LSE also signaled "hold." The pilot stopped lateral movement, but he was too late to prevent the pallet of bombs from striking the deck edge and breaking up. Every bomb fell overboard. The pendant and sling remained attached to the cargo hook and were released at deck edge by the aircrewman.

The aircraft successfully completed the last delivery before being relieved. Later, extensive troubleshooting revealed that the normal cargo release system was functioning normally.

This aircrewman had extensive experience and had served as aircrew training petty officer. Prior VERTREP experience undoubtedly made him overconfident and caused him to bypass appropriate emergency procedures that would have ensured hook release. A professional approach and thorough knowledge and use of NATOPS procedures would have prevented this incident.

Ship's personnel should also remain alert to unsafe situations. Somehow, the LSE failed to note that the pendant, sling, and pallet were still attached to the cargo hook. A "hold" signal to the pilot would have ensured no aircraft movement. Quick response by an alert tower operator might also have prevented the accident. Attention to detail and close coordination by all personnel are mandatory during VERTREP. ◄

SHAKY DESCENT

ONE afternoon some months ago, LT Richard B. Warner and his crew of a C-118B were inbound to NAF Detroit. They were on an IFR flight plan, cruising at 9000 feet. At a point about 40 nm from their destination, they were cleared to descend to 7000 feet.

During descent while passing through 8000 feet, they heard a loud thud which was followed by severe shaking of the aircraft and rudder pedal movements. A quick check of the engine gages revealed no malfunctions. Lieutenant Warner passed the word to the crew to make as thorough an inspection inside and out of the transport as they could.

A visual inspection of the tail, viewed from a small window in the aft port head, revealed the damage shown in the photographs. They declared an emergency and quickly determined the aircraft was controllable. They diverted to another nearby base where more favorable landing conditions existed. An uneventful landing followed. Good work, LT Warner!

Investigation revealed that the top part of the rudder was missing, but the lower part was still intact. There was no apparent damage to the vertical stabilizer or rudder attachment points. The missing part of the rudder could not be found back along the route of flight.

No known reason could be determined for the inflight separation. The activity recommended that all operators of C-118B aircraft make a one-time inspection to ensure integrity of the rudder outer surface. They also recommended that repair activities review their procedures to effect rudder repairs.

What the well-dressed LSO wears

AFTER printing pictures of LSOs at work, we frequently receive letters from observant readers concerning the proper flight deck clothing (or lack of it) worn by LSOs. And, sure enough, we received some comments about the LSOs pictured in the DEC '76 issue of APPROACH (pg. 18-19).

The questions this time concerned lifevests, goggles, short sleeves, and rolled-up sleeves. Over the years, we've been asked about – in addition to the above – helmets, ears, and safety shoes. Where are they? Why aren't they being worn? Aren't LSOs required to wear the same protection as everyone else on the flight deck? All good questions, but difficult to answer.

When we discussed this last (Letters section, OCT '75 APPROACH), we reported that a thorough search of CVA/CVS NATOPS, LSO NATOPS, and General NATOPS revealed nothing in writing which specified required LSO clothing. CV NATOPS did require all flight deck personnel to be in a complete outfit of protective gear. However, since technically the LSO platform was not part of the flight deck, LSOs did not fall into this category. Therefore, the question of what was required varied from air wing to air wing.

You may wonder why, other than the rather picky point that "technically, the LSO platform was not part of the flight deck," LSOs should not wear the same protective clothing that everyone else does. Here are some of the reasons we've given in the past. Ears are not worn because LSOs need to hear aircraft power changes to assist them in analyzing aircraft glide slopes. Also, they need to talk to each other to grade passes. The steel-toed flight boots satisfactorily substitute for flight deck safety shoes, and the *Nomex,* long-sleeve flight suit provides skin protection. Some air wings require LSOs to wear lifevests, but with the existence of the LSO net and the recessed platform on some carriers, the possibility of an LSO being blown overboard is remote.

This lack of standardization was recognized and discussed during the December 1975 CVA/CVS NATOPS conference. The following specific guidelines for required LSO clothing were established. As a minimum, LSOs are now required to wear flight boots/safety shoes, goggles, jersey, flotation vest, and an adequately secured whistle and survival light. They are not required to wear helmets or sound attenuators while controlling aircraft.

In the future, we will attempt to print photographs of LSOs wearing the required clothing. Toward that end we would appreciate some help from our readers. WANTED: Up-to-date pictures of LSOs.

Next to an inflight fire, one supposes that the emergency which strikes fear in the heart of the strongest helicopter pilot is engine failure at night, in IMC, over unknown terrain. Here's the first-person account of Capt Cornelius B. Whitehurst, USMC and Capt Randall L. West, USMC, who were the AH-1J pilots assigned a mission of night escort/flare support. They were . . .

FOUND NOT WANTING

THE initial phase of the night assault had been completed, and all aircraft were returning to USS IWO JIMA. We were monitoring UHF and heard the helicopter direction center state that there were two more loads for the assault area. A CH-53 was directed to pick up a load of troops and to proceed to a certain landing zone for a troop drop.

When we heard the instructions, we called the controller and the CH-53 pilot and advised them we had just talked to personnel in the landing zone. They reported fog and did not recommend a troop drop. The CH-53 pilot said they'd go and check the area. He then asked us if we were coming, too. We said affirmative. We felt we had a good idea of the location of the landing zone and could be of help.

The weather was clear and forever at 2000 feet, but at 1000 feet and below a haze layer was forming and ground fog was increasing. The fog was plainly visible and filled virtually all the valleys. It gave the appearance of leveling the surrounding terrain.

I called the landing zone and told them a CH-53 was inbound about 10 miles out, and requested a zone brief. The CH-53 pilot cut in and said that he would talk to the landing zone controller. I rogered and climbed to 2500 feet to ensure we weren't in his way. The CH-53 pilot descended and made at least two unsuccessful passes. Then I called him and said we were going to take a look. We reported scud and thick haze at 300 feet. The terrain below us was mostly covered with fog – thin at the higher elevations, becoming thicker as the ground level sloped into the valleys.

We continued cautiously, watching a flashing light in the zone, until our radar altimeter showed 200 feet AGL. We slowed to 45 knots and circled the zone. We called the controller as we orbited, and he replied, "You're not over my position." I told the CH-53 pilot we weren't over the right area, the weather was too bad to continue, and we were climbing out.

I stopped circling and transitioned to a normal climb when I felt a sinking sensation (a sense of mushing) and heard a pop. At this point, we were to remain airborne for

only a few seconds longer. All I know is there was little time to do anything. (The power turbine had failed, due to overspeed.)

We had progressed just far enough from what we thought was the landing zone to be over an area covered with fog. I saw the gages indicating a 250-foot descent. There were no other gage indications of a power problem. From that second on, I concentrated on the radar altimeter, the VSI, and my attitude. I knew we were going down, and above all else I wanted to ensure I didn't lose my rotor turns, and I wanted to stay level.

I didn't have time to cut on the searchlight or jettison my flare pods. The latter proved to be fortuitous because they prevented the helicopter from rolling over after we landed.

When we reached 180 feet, I started a slight flare and kept wings level. Suddenly my radar altimeter dropped to 10 feet. I doublechecked my wings level and pulled collective. Just before touchdown I heard a loud bang and then a second bang as we landed.

The impact was gentle, and neither of us were subjected to any unusual forces in the cockpit. The aircraft stayed upright, but burst into flames. I told my copilot to get out, and I concentrated on securing the engine. I cut off the fuel switches and tried a couple of times to roll off throttle. My canopy was open, and I remember the sound of the engine winding down. I left the aircraft as the engine stopped.

I joined my copilot, and we noticed the intensity of the fire decreasing. We returned to the helicopter, and I grabbed the fire extinguisher and was able to get close enough to put the fire out.

I was surprised then to see the transmission and rotor head had departed the aircraft. (Apparently the bangs I heard at touchdown were the blades hitting the ground, which tore out the transmission and the rotor head.)

We tried immediately to get the attention of the CH-53 that we heard circling overhead. We fired the pencil flares and thought he had seen us, but he left the area and we knew no one would miss us until fuel exhaustion time.

We were wearing the proper flight gear and had our visors down. Neither of us, however, had our flight jackets in the aircraft, and later it would have been nice to have had them for added warmth. We had radio beacons but no one heard our signals. They were properly employed because we sat down and read the instructions on how to operate them.

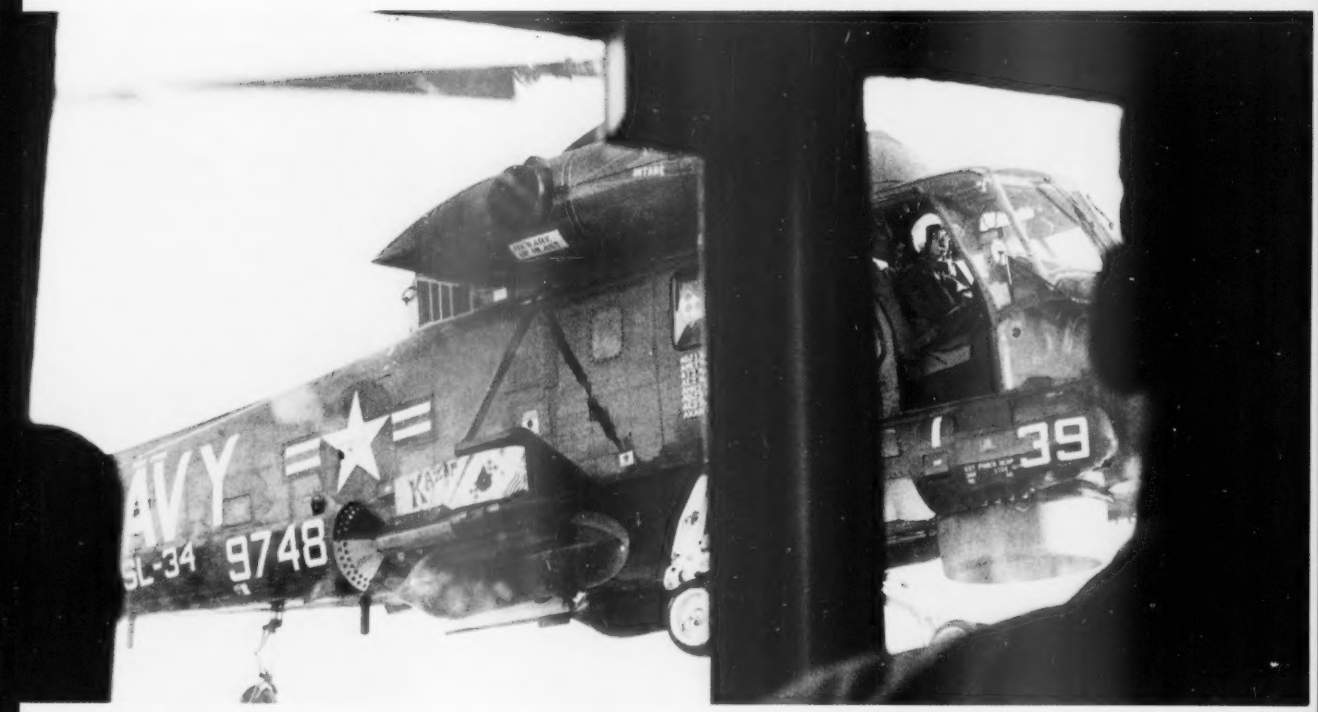
We inventoried our gear. We had flashlights, whistles, and strobe lights. We checked the aircraft, saw that we had plenty of battery juice, and the FM radio and antenna seemed to be in good shape. We decided to start a fire, but finding firewood wasn't easy. We were in a plowed field, and to make sure we didn't get lost in the fog, one of us stayed by the aircraft showing lights and intermittently blowing the whistle, while the other looked for wood. We found a brush area not far away, which kept us supplied with enough firewood to last the night. We used rags and maps to get the fire going.

Later, we heard a helicopter overhead and were ready for it. We had our attention-getters all stacked neatly to use for this purpose. We tried the FM radio, and although it didn't work initially, by jiggling wires and banging on the set, it worked! We told the pilot we were OK, found out our fire was dimly visible from overhead, and advised the pilot the fog was too thick to even think about picking us up.

Our position was marked, and we knew we'd get out in the morning. The SAR pilot dropped us some chemical lights. We used them to illuminate the cockpit to change frequencies, without having to turn on the battery first. About 0130 we heard vehicles and saw their lights. We got their attention by blowing our whistles. They found us, gave us some coats to wear, and we remained together the rest of the night. Some natives arrived a little later with wine, bread, and sausage. What a way to survive! ◄

A recent frigate helicopter accident resulted in two fatalities, which reaffirms that small deck flight operations by nature are extremely hazardous.

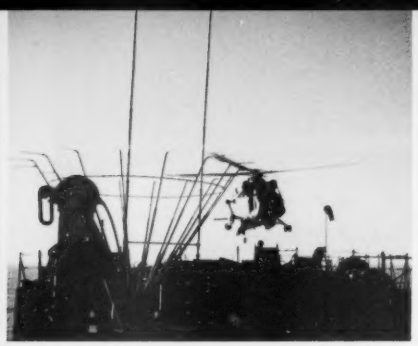
FRIGATE FLIGHT



ONE of the most impressive operations yet devised by the Navy is the launch and recovery of aircraft from a carrier flight deck. The rhythmic and harmonious movement of men, equipment, and aircraft over a steel deck inspires pride in being a part of such evolutions. Simultaneously, danger abounds for any man or crew caught by momentary inattention or catastrophic material failure.

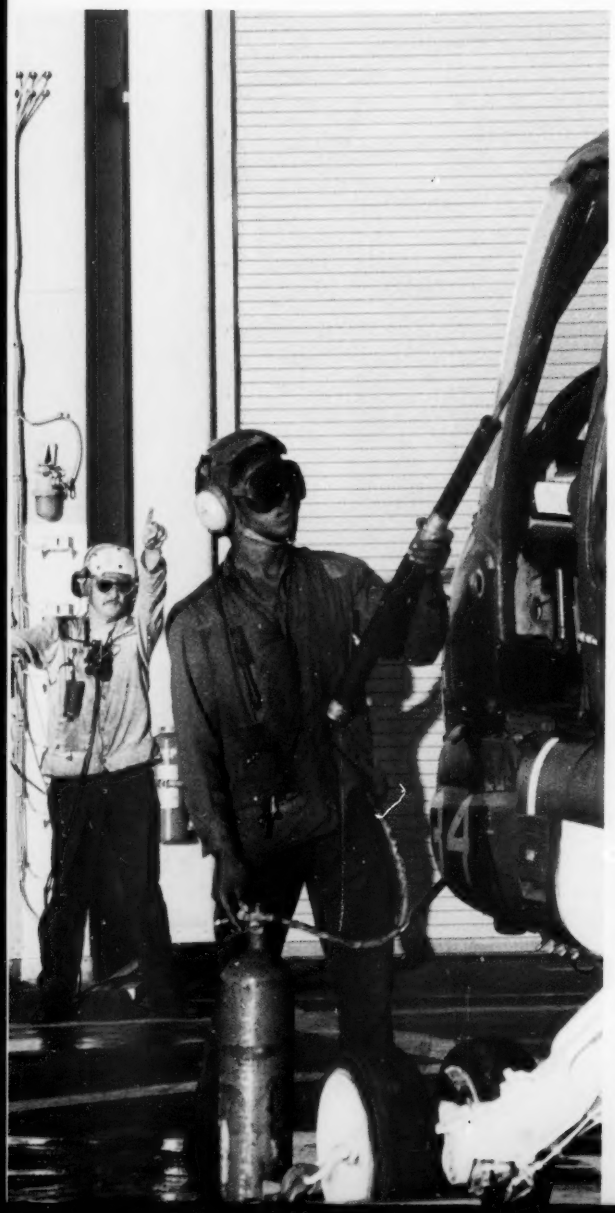
To be successful, carrier operations require that each man perform his job precisely and consistently, and crew survival depends on it. Aboard carriers, each crewman must be aware of intakes, exhausts, cables, chains, chocks, wheels, catapults, bridles, hoses, ordnance, deck edges, and parked aircraft. They're all the potential enemy.

Similarly, on LAMPS flight decks (as small as 53 feet by 29 feet), crewmen face other hazards peculiar to helicopters. For example, the main and tail rotor arcs demand attention. Tail tiedown chain runners usually find themselves working within 3 feet of the SH-2F tail rotor. Unlike the carrier deck, frigate decks oscillate with as much as 8 degrees roll and 4 degrees pitch, making the deck's motion a threat – demanding second-by-second concentration. Space on the postage-stamp flight deck is even more cramped than on the big bird farms. The rotor blade tips hang 4 feet beyond the deck edge on either side. Chain runners and hot refueling crews usually work within



DECK OPERATIONS

By LT G. P. Tierney
HSL-34 Det 4

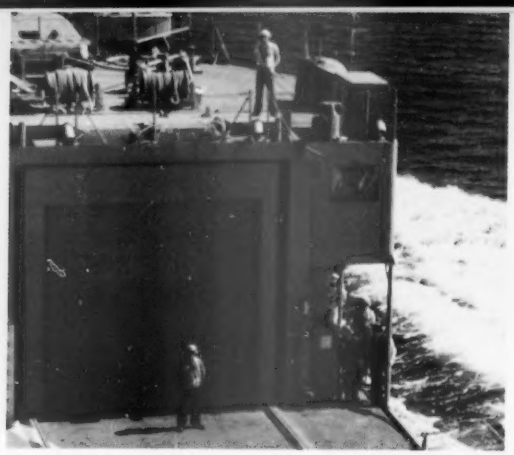


3-5 feet of the deck's edge. The starboard tail chainman often has to stand on the gunwale to keep his balance and rig the tiedown. Frequently after landing, with both mainmounts in the landing circle, the tail pylon extends out over the water. Wet decks further complicate deck evolutions. (There's just 16 feet clearance from the waterline in calm seas, and ocean spray with a higher sea state renders a normal evolution precarious.)

On the flight deck, the man most interested in safety is the LSE. Unlike his LSO counterpart, he has virtually nowhere to hide. As the helo makes its approach almost directly at him, the big hangar doors at his back stand impassionately, blocking his retreat. The pilot has no straight-on waveoff capability on LAMPS ships. While the rotor blades are still approaching the flight deck, the LSE is only a few quick steps to the deck edge, provided he has time to remove the electronic hookup to his helmet. Once the helo maneuvers close aboard, however, his survivability in an accident drastically diminishes. If a blade were to strike the hangar or the helo were to lose an engine, escaping the crash area would be impossible.

Normally, in a hover, the tip path remains 10-12 feet from the hangar. But with rough seas or at night, positioning the aircraft over the landing circle becomes a total concentration effort for both the LSE and the pilot. A gyrating deck can yaw out from under a helo in a steady hover, and, in similar fashion, the hangar face tilts away from, then toward, the rotor arc with the pitching movement of the ship. Excellent visual acuity and depth perception are mandatory. Inattention or distraction prove unforgiving, just as on bigger decks.

What can be done to reduce the threat to small deck crews? There are some positive steps that can be taken on the managerial level. For example, flight deck personnel can be required to walk, not run, at all times. This reduces the chances for losing balance or tripping over unseen chains. The OinC can push vigorous flight deck safety programs stressing total awareness, with methodical and precision teamwork. Personnel on the flight deck can be required to



wear lifejackets at all times. Working on top of the helo, especially at night or in high sea state, requires agility and caution. Mandatory use of cranial helmets should be considered for anyone working on the head or tail. The LAMPS detachment and the ship can work together to minimize the dangers of FOD and optimize winds during night/rough weather landings.

During a normal month on deployment, a LAMPS ship will conduct an average of 60-70 landings, one-third at night, with an additional 5-10 VERTREP/hoist operations. Many of the Group IX personnel operating LAMPS decks are carrier deck veterans.

Carrier deck evolutions have a relatively long and colorful history. In contrast, small deck operations have blossomed only in recent years. Night and marginal weather flights previously considered unsafe now launch routinely. The danger has not vanished; rather the state of the art has become more sophisticated. Deck operations are hazardous regardless of the type aircraft or deck size. As in all shipboard aviation, only with constant vigilance and stronger emphasis on deck crew professionalism will frigate aviation remain a safe and viable air arm of the Fleet. ◄

This flight, scheduled to participate in a LANTFLT exercise, ended up being subjected to events not called for in the OPORDER.

Bravo Zulu

LTJG Stephen J. Bury
HS-7

LTJG Steve Bury and crew were scheduled for a 5-hour flight involving three other H-3 aircraft and several ships participating in an ASW exercise. The scene of action was approximately 110 nm off the Florida coast, an area dominated by gusty winds and thunderstorms.

Approximately 2 hours and 25 minutes into the flight, the first crewman reported oil coming down the starboard side of the aircraft aft of the No. 2 engine door. At the time, all engine and transmission gages indicated normal. Within minutes, the transmission oil pressure indicator started fluctuating between 30-45 psi, while temperature held steady at 90°C. While searching for the source of the oil leak, the first crewman reported oil covering the deck in the afterstation. LTJG Bury immediately made the decision to abort the mission and requested vectors to Homeplate — 120 nm away.

Before long, a further decrease in transmission oil pressure was noted. The pressure indicator was now fluctuating between 25-40 psi, and the amount of oil in the sonar and aft stations had increased significantly. It was apparent that the aircraft could not reach land. With quick thinking, LTJG Bury made a call to surface units in the area in an effort to find a landing platform. The reply revealed that the USS WILLIAM H. STANDLEY was available. Although STANDLEY was not certified for landing the H-3, it was quickly determined that there was sufficient room.

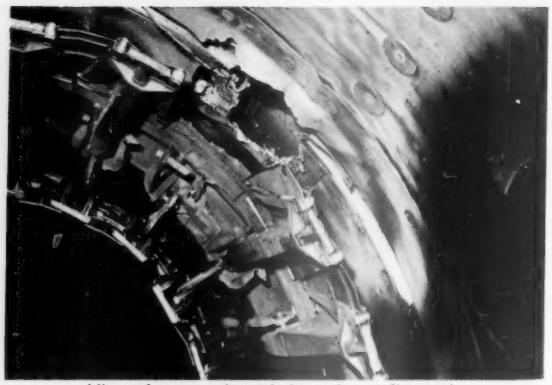
Within minutes, the crippled aircraft was given a green deck. However, complications arose and threw in an extra pucker factor as thunderstorms, with winds gusting to 50 knots, engulfed the ship and approaching H-3.

The skillful airmanship of LTJG Bury, along with the well coordinated effort of his crew and the crew of STANDLEY, enabled him to land his aircraft safely on the small deck. Quick thinking and appropriate action under adverse conditions averted the loss of an aircraft and the potential loss of four lives. Well done! ◄

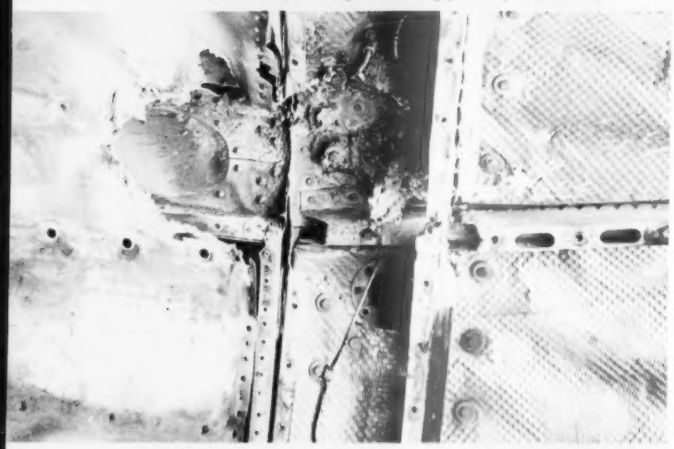
Phantom Phlyers:

Check your six before flight, too.

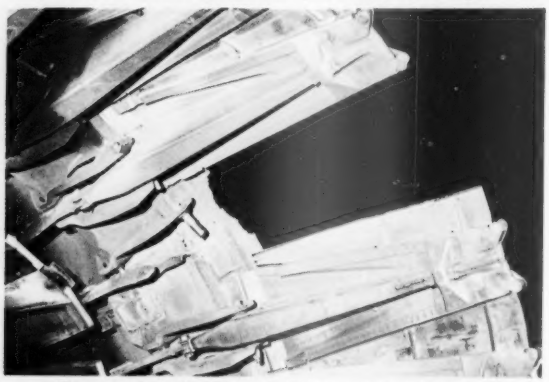
By LCDR Rick Webb
VF-51



View of port engine missing primary flap seal.



Inner intercostal and jet blast panel support damage.



Damage to the flap shroud of the secondary nozzle.

DO you know what one little turkey feather can do? It can (and did!) cause an accident requiring 480 man-hours to repair at a cost of $15,000, that's what! What's more, had the mishap occurred farther from a divert field, the entire aircraft could have been lost. What kind of turkey feather can do this? Not the Thanksgiving-bird variety. Rather, these turkey feathers belong to the J-79 jet engine and are known more technically as the primary flap seal and flap shroud.

How did this accident happen? Following normal preflight, start, taxi, and afterburner takeoff, the F-4 proceeded to the ACM range for a 1 vs 1 engagement. On the range, following a visual split from the adversary, the pilot plugged in the afterburner as the aircraft turned to commence the fight. One and a half minutes into the engagement with afterburner still engaged, the pilot noticed the port engine overheat light on bright and steady. As prescribed by NATOPS, he immediately pulled back the port throttle to IDLE, unloaded the aircraft, and commenced wings level flight toward a divert field nearby. The overheat light remained on, however, and the RIO observed smoke aft of the aircraft. The pilot immediately secured the port engine, after which the overheat light extinguished. The aircraft proceeded to the divert field, accompanied by his wingman, who observed no further smoke after engine shutdown.

The culprit was the port engine primary flap seal. It had separated at approximately the 2 o'clock position, resulting in a disrupted afterburner flame. This gave a blow torch effect, causing heat damage and cracking of bolts, bellcrank, and the flap shroud of the secondary nozzle. The flap shroud separated from the aircraft, allowing heat damage to the titanium jet blast panel. Additional heat damage and cracking was sustained by the intercostals, angles, formers, frame, and jet blast panel supports, as well as jet blast panels between fuselage stations 493 and 535.

In this case, prompt reaction by the aircrew prevented further damage and probable catastrophic failure. COULD A CLOSER LOOK ON PREFLIGHT HAVE PREVENTED THIS? That's hard to say. But about 30 aircrew of the "Screaming Eagles" sure take a closer look at this area now during preflight. Next time *you* preflight, just take a look at how the primary nozzle flap seal is held in place. You don't know what the primary nozzle flap seal is? Then see your ADs *now*.

Drone recovery glitches

THE pilot of a CH-46 lifted from NAS one morning on a BQM-34A drone recovery training flight. Less than 15 minutes after departure, while flying at 500 feet and 50 KIAS, the crewman saw the external load begin a high frequency vibration. Before he could advise the pilot, the target fell, hit the water, broke into pieces, and sank.

The dummy target had been secured to a special electrical deployment device by a 6-foot length of nylon cargo strap for the initial lift from the air station to the practice water pickup area. The strap, though certified for 5000-pound loads, was not designed for the purpose that it was used.

Normally, a 6-foot length of parachute riser atop the target's pickup loop is used to secure the target to the electrical deployment device when transporting a dummy target to the practice area. In this incident, there wasn't a parachute riser attached to the dummy target, so the cargo strap was substituted.

The cargo strap was tied to the target pickup strap with a series of half-hitches on one end. The metal clip on the upper end was hooked through the electrical deployment device's cargo hook. The end of the broken strap that stayed with the aircraft was frayed and broken in an irregular pattern. Apparently, the high frequency vibration caused the dynamic strength of the cargo strap to be exceeded, causing failure at its most vulnerable point.

A week later, another CH-46 crewman, engaged in practice drone recovery, using quick-disconnect pole recovery gear, had an unusual experience. The instructor in the left seat made an approach to a drone with the crewman in position at the forward cabin entrance door, with the door extended.

A 20-foot pole with the hook and cable attached was used to engage the drone. The pole was held over the end of the steps between the crewman's feet, and the cable was rigged from the doorway under the extended door.

After hookup and before the pole could be disconnected, the aircraft drifted left, and the thimble splice of the recovery cable became snagged on the aft, upper attachment point of the cabin door. The helicopter continued a left drift, and the recovery cable became taut under the door, forcing the door up to a near-level position. With the door in this position and the pole still attached to the hook, the pole and cable were exerting force on the door in opposite directions.

The crewman's right foot was pinned between the pole and the bottom step as he held onto the bending pole. The

recovery cable slipped off the corner of the doorway, releasing some tension, and the snagged thimble splice became free. The cable paid out, and the door fell to its normal position with great force.

The hookup pole was disengaged, and the drone was recovered. The crewman sustained minor back sprain and bruises to his right ankle. The door stiffeners were cracked in six places, and some door skin buckled. The entire hangup had only lasted about 20 seconds.

The cause of the incident was improper positioning of the recovery cable prior to retrieval. The cable thimble splice was pulled into the doorway by tieline instead of leaving the splice outside the helicopter. The potential hazard of pulling the cable splice inside the doorway was not obvious to those involved in the operation.

The squadron had conducted many other practice drone recoveries with a 15-foot pole without any problems. The 15-foot pole is preferable to the longer pole because of better mobility and ease of handling for aircrewmen.

The NATOPS pilot's pocket checklist dated 1 Oct 1975 contains drone recovery procedures. CNO 201237Z Nov 75 deleted drone recovery operations from that checklist canceling the authorization to recover drones, but CNO 291434Z Nov 76 reinstated the use of those procedures **but only for those activities routinely involved in drone recovery**, *utilizing specially trained swimmers. Normal Fleet crews are prohibited from employing these procedures. – Ed.*

A save for Dilbert

THE Dilbert Dunker has been around since World War II. Since its origin, the Dunker has been modified and perfected to keep up with the changes in aircraft design, survival equipment, and emergency egress procedures. Throughout the years, it has continued to provide invaluable training for aviators trapped in their cockpits underwater. Exactly how many lives Dilbert Dunker training has saved would be very difficult to tabulate. One thing is clear, however. Whatever the number of saves, it has just increased by one.

An A-7 pilot completed a successful four-wire pass. During the rollout, the pilot engaged the nosewheel steering. When clear of the gear he added power, started folding his wings, and applied right rudder to start the A-7 toward the foul line. When the aircraft did not turn, the pilot pushed the NWS button again, this time with the left hand since his right hand was engaged in folding the wings. The aircraft continued straight ahead, gathering speed, prompting a precautionary call over land-launch frequency. The pilot, recognizing he was accelerating much too rapidly, reduced power and applied brakes.

But the aircraft's momentum was too great by this time. Despite locked brakes, the *Corsair* continued straight ahead and went off the angle deck.

The pilot felt he was out of the ejection envelope at this point, so he elected to stay with the aircraft. He jettisoned the canopy as the aircraft pitched down. The A-7 hit the 01 level sponson, rotated about the nose, and dropped into the water tail-first. The pilot felt little impact.

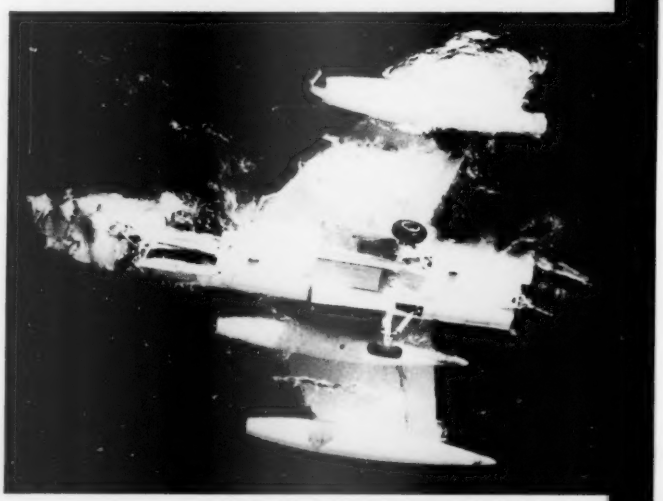
Once in the water, the pilot's mask started leaking, requiring him to tighten it before he could breathe underwater. Once this was accomplished, the pilot tried to release his lower Koch fittings, but encountered difficulty due to his long arms. Failing this, he pulled the harness release handle and tried to stand up. This too was unsuccessful since the parachute pack caught on the headrest of the ejection seat. Finally, he remembered the Dilbert Dunker procedures taught him in preflight, and he easily pulled himself free using the front canopy bow.

Once free of the cockpit, the pilot tried to swim to the surface, but his leg movement was hindered by the seat pan. Consequently, he released his lower Koch fittings to discard the seat pan. Although he was then able to swim more easily, he was disoriented and did not know which direction was up. Realizing this, he pulled both toggles on his LPA-2 life preserver. This brought him to the surface quickly even though only one side lobe and one neck lobe of the LPA actually inflated. (The other lobes inflated normally later in sickbay; he hadn't pulled the toggle completely.)

With only partial buoyancy, the pilot felt he was being dragged underwater, so he released his upper Koch fittings and discarded the parachute pack. This allowed him to float easily, head upright and clear of the water. The SAR helo was in position by this time and lowered a collar. The pilot attached the hoist hook to the snap link on his torso harness and was raised into the helo. The only injuries he sustained from the entire evolution were some minor cuts on his right hand and left forearm. Total time from water entry to arrival at the surface was 1 minute and 20 seconds.

The pilot in this accident should be commended for his coolheadedness, composure, and survival preparation. Being upside down, underwater, in an enclosed space has got to be a disorienting and terrifying experience. The pilot's ability to think and stay cool in this panic-producing situation were definite factors in his successful egress. An analysis of the pilot's actions provides some valuable lessons.

The pilot's decision to stay with the aircraft deserves first attention. The decision to eject or stay with an aircraft that is going over the side of a carrier is a personal one. Many parameters must be considered: aircraft speed, attitude, wind over the deck, aircraft seat capability, among



others. In the A-7 NATOPS, for example, there is a WARNING: "Ejection should be initiated before going over the deck. Any sink rate or attitude change occurring after the aircraft leaves the flight deck will degrade chances for a successful ejection."

The important thing is to prethink various emergencies that might occur and make the decision while you are sitting in the readyroom rather than when the emergency actually occurs.

This pilot apparently had done that. After making the decision to stay with the aircraft, the second step in his pre-thought-out procedures was to jettison the canopy. This was an extremely important thing to do before water entry, because the pressure of the water on the canopy if it were left on would make underwater removal very difficult.

Once in the water, the pilot had the right priorities on his actions. Breathing is of course the primary consideration in any underwater escape where egress may be delayed. Once this pilot got his breathing equipment operating satisfactorily, he could then work to complete his egress.

And, of course, this is where good old Dilbert Dunker came in. Just as advertised, the pilot could not egress by standing up with his seat pack and parachute attached. The Dunker procedures came back to him when he needed them most, and he is alive today to bear testimony to their effectiveness.

The pilot mentioned two other points that he considered significant in his survival experience. He was not wearing

flight gloves, as authorized in OPNAVINST 3710 for carrier takeoffs and landings, and he stated that this greatly facilitated releasing the Koch fittings. Also, he had high praise for the Mountain Piton snap ring installed on his torso harness for helo pickup. A standard military version of this commercial product has been developed by the Navy and will be included in future Navy outfitting as described in Aircrew Systems Change 361.

To many aircrews, the initial Dunker training and the 3-year recurrent water survival training are a pain in the proverbial place. However, there's one JG in the Fleet today who will never give it anything but the highest praise. His survival can probably be attributed to Dilbert Dunker training and his preparation for the emergency. Would you have been as ready? ◄

Fifteen

seconds from disaster

THE decision to divert from your destination airfield is never easy, particularly if that destination is your homebase. Besides the obvious advantages of home cooking and your regular bed, it is much more comfortable to fly an approach to a familiar field using familiar procedures. As opposed to this, a divert usually means going into a strange field with unknown capabilities and different procedures. Nevertheless, a timely divert is sometimes the smartest thing to do, as two young T-39 pilots found out recently. Their failure to divert until below bingo fuel almost cost them their aircraft and perhaps their lives. Their *Sabreliner* experienced a dual flameout rolling into the groove at their alternate. Only by pure luck did this flameout occur close enough to the airport to allow them to complete the approach and landing without power. They were truly 15 seconds from disaster.

The flight began as a routine, foreign cross-country training flight. NOTAMS were checked prior to the first leg, and nothing unusual was noted. After landing at the turnaround base, NOTAMS were not rechecked. Had the pilots done this, they would have discovered that all navaids at their alternate airport were NOTAMed inoperative.

The weather forecast for homebase was satisfactory when the *Sabreliner* pilots departed their turnaround base, and an enroute update revealed the weather was holding good. However, when they checked in with approach control at Homeplate, they were given weather of 600-foot overcast, 500 meters visibility, and a temperature/dewpoint spread of 0. To verify this report, the PIC (pilot in command) switched over to the Navy metro frequency. The forecaster was outside taking a reading at the time, but the most recent visibility was reported to the pilot as 3 miles.

The T-39 held for about 5 minutes and was then cleared for the approach with slightly less than 2000 pounds of fuel onboard. The pilot requested a minimum fuel GCA, but this terminology was not understood by the controllers, and he received normal handling.

While on vectors to final, the crew was directed to break off the GCA and return to holding at 4000 feet due to conflicting traffic. A civil DC-9 was shooting an approach into the neighboring airport. During the climb back to the VOR, the crew again contacted metro and received a visibility report of 1 mile and decreasing.

Fifteen minutes after the first approach, the *Sabreliner* crew was cleared for a second approach. Now, however, they were at bingo fuel for their alternate, 105 miles away. Visibility was reported at 100 meters (PAR minimums were 1668 meters). The pilot nevertheless elected to commence his approach, planning to use the civil airport where the DC-9 had just landed as an alternate in the event of a missed approach.

And a missed approach is what resulted. Due to the deteriorating local weather conditions, the pilot elected not to attempt an approach to the civil airport and instead proceeded to his filed alternate. The pilot did not declare an emergency although he was 600 pounds below the bingo fuel laid down by squadron policy. He calculated that he was within NATOPS bingo range for his alternate field.

The *Sabreliner* was cleared direct to the alternate, but was held at 12,000 feet for several minutes before receiving clearance to the requested altitude of FL200. Even after leveling off at FL200, the aircraft commander could not receive any of the field's navaids. Since he had not checked NOTAMS, he was unaware that they were inoperative. Realizing that things were rapidly turning into a can of worms, the PIC declared an emergency.

As so often happens when things start going wrong, everything goes wrong. The aircraft commander could not establish communications with the divert field on the frequency assigned by the enroute control or by using any of the other frequencies listed in his DOD publications. Finally, the enroute controller came up with an unpublished frequency, comm was established with the divert field, and radar vectors to the field were given.

While this radio drill was going on, the copilot had been flying the aircraft. A relatively inexperienced pilot with only 175 hours in type and 460 total hours, the copilot did not fly the optimum bingo profile. As a result, an extra 300-400 pounds of fuel were required. The PIC did not notice this due to his preoccupation with communication and navigation attempts.

With the low fuel lights burning brightly and the pucker meter pegged, the crew sighted the runway at 13 miles. The PIC took control of the aircraft and set up for a precautionary flamed-out approach in anticipation of possible fuel exhaustion. It was a good thing he did. Rolling wings level on final, both engines flamed out due to fuel starvation. Fortunately, the pilot was in a position to land the airplane, and did so. There was no damage to the *Sabreliner*.

Continued

These pilots will probably never come closer to an accident than they did here. As the squadron commanding officer put it, "A catastrophe was narrowly averted through pure luck combined with flying the precautionary approach." How did the pilots err? What could they have done that would have prevented this close call?

With the benefit of hindsight, several significant errors can be identified which laid the groundwork for the hairy sequence of events. Perhaps the greatest error the crew made was commencing the second approach to Homeplate when it was below minimums, and they did not have sufficient fuel (according to squadron policy) to fly to a suitable alternate. Not only was this poor headwork, it was also a violation of OPNAVINST 3710.7H.

There were several reasons the PIC elected to commence that second approach. Weather forecasters overseas and at this base have a reputation for inconsistent weather observations, usually tending toward the pessimistic. The most recent observation the pilot was able to obtain from the Navy metro was 1 mile visibility – within limits. Moreover, the civil DC-9 had just completed a successful approach to the neighboring civilian field that had higher minimums than the military airport.

Once the crew commenced their approach and discovered the weather was really as bad as the controllers were calling it, a missed approach was the only action left open. Here the second significant error was made. By not flying the optimum profile, 300-400 pounds more fuel were used. This fuel would have been the difference between merely a scary low fuel divert and the near disaster that ultimately resulted.

Sitting in the readyroom, it is easy to criticize, but most pilots can relate to the situation the pilots were encountering on the divert and sympathize with them. The pilot in command was trying to establish comm with various foreign-speaking facilities while trying to navigate without navaids and also minimize fuel consumption. The copilot, young and inexperienced, probably had his mind set to land the aircraft at homebase and was caught unaware by the sudden divert. But the situation didn't have to be so bad; the pilots could have made it easier on themselves. Had the crew read the NOTAMS prior to departing their stopover base, they might have been more prepared for navigational problems on the divert. Had the crew briefed the possibility of divert more thoroughly, the copilot would have been better prepared to fly the bingo profile.

The crew could also have helped themselves by declaring an emergency immediately after their missed approach. They lost precious fuel by being held at a lower altitude than optimum during their bingo profile climbout. Many of the pilot's communication difficulties might have been avoided by declaring the emergency and broadcasting on Guard. The T-39 crew needed all the help they could get in this situation, and they should have had no qualms about declaring the emergency.

All of these errors were relatively minor compared to the crew's decision to commence the approach below bingo. Had they elected to divert upon reaching bingo fuel, they would have arrived with adequate fuel reserve to compensate for a non-optimum profile and the often-experienced delays caused by ATC handling and navigation problems.

The commanding officer of this squadron pointed out how this incident vividly demonstrates the pitfalls and dangers of flying in a non-CONUS environment. The pilot in command was one of the most experienced aviators in overseas flying, and yet he let himself be led into a trap. This overseas flying area experiences rapidly changing weather conditions, as well as antiquated control equipment and procedures. All of this means that extra caution, fuel reserves, and judgment must be cranked into the safe flying equation.

A divert to a strange airfield may not be the best way to end a cross-country flight, but it's a heck of a lot better than leaving your airplane in a fireball and spending the night in the woods. Keep the divert option open, plan for it, know how to execute a bingo profile, and then divert when you reach your bingo fuel calculation. This can prevent a few of those proverbial moments of stark terror such as this crew experienced. ◄

"Here (in America) I found the confirmation of my hopes and came to understand the reason for the success of this great country – it was the free initiative and free work of a free people. This has been and still remains the wisest and most constructive formula upon which a free, progressive and successful human society can be founded."

Igor I. Sikorsky

Ask any COD pilot

By LTJG W. W. White
VRC-40

ENTHUSIASTICALLY, ENS Black dragged his survival vest and flight gear out of his locker. Even though it was early, he was wide awake and rather excited. Today he was going on his first operational hop! He had just been designated a CT3P, and the ops officer had asked him if he wanted to be copilot on a VIP hop. "That was a funny thing for the ops boss to ask – I joined the Navy to fly!"

As Paul donned his flight gear, his mind sorted through the conversation with the ops boss . . .

"As a new ensign in the squadron, this hop will really give you an insight into our squadron. Actually, it's a pretty typical occurrence for this squadron. It will be an 'O' dark 30 launch from Norfolk to meet the admiral and his investigative team at Andrews at 0600. Then 200 miles out to sea to hit the boat off the Virginia coast. We will ride the carrier until just before sunset, take the admiral and his team back to Washington via a fuel stop at Cherry Point, then return to base. You should enjoy it!"

"So now I have to put together a navigation bag, check the hot areas in the Vacapes, get the ship's call sign and frequency card, and what else?"

"Good morning, Paul. Are you ready to do some flying?"

"Oh, hello LT South. Yes, just getting my things together."

"I'll tell you what, Paul. As soon as you finish, let's sit down and brief, OK?

"I know this is your first time to the boat in this squadron. I had hoped that you and I would fly together; it is kind of ironic – this being your first and my last trip to the boat. I want to pass along some of my experience so that you won't have to pay a very high price to learn something that I already know. That's the way a good safety program works. When I first checked into this squadron, there were a couple of lieutenant commanders that took me aside and showed me the ropes. I guarantee you I would have busted my butt more than once if I hadn't had their experience to rely on. So now, 3 years later, I would like to pass along some advice. Before I take my logbook that contains 1400 hours and 150 traps, and my plaque that says I have landed on every east coast carrier, let me try to explain how to be a good *Cod* pilot and what you are up against. And why you see some gray hair although I'm just 26.

"We have a good safety record, thanks to the efforts of some very dedicated people. Yes, and lots of good luck! But things are going to get increasingly difficult. Besides the problems that almost everyone has with not enough experienced people to do the job, the C-1A is going to be servicing the Fleet into the 1980's. That means that

everyone has to treat the old CHARLIE ONE with the respect it deserves, or we could see some crashes of 'THE *COD* THAT COULD.'

"One area that I should caution you against is assuming too much or letting others assume too much. Let me show you what I mean. Most ships assume that a *Cod* pilot is a fairly experienced aviator. Why? Well, mainly because the pilots flying their *Cods* are at least third-tour aviators. Also, not too long ago, flying a *Cod* was a good place to stash passed-over lieutenant commanders. But look at this squadron; mostly first-tour and mostly JGs and ensigns.

"Let's carry that assumption a little further. The air boss thinks that it's a crusty old lieutenant commander flying the *Cod.* So the pilot can make his play for the break just before or just after the jets; but the lieutenant commander will know that by osmosis anyway. Besides, he can always give him a right-hand pattern, tell him to spin it or use unfamiliar procedures, then yell at the *Cod* driver if he doesn't do it the way his ship's *Cod* pilot would do it! And once the *Cod* is in the groove, the pickle goes to the new LSO that has to get some training. Lieutenant commander flying . . . no problem . . . couple of cut lights instead of verbal power calls . . . wave him off to get the A-7 . . . full power on the R1820s . . . hatches are open, and the pilots can't hear anything except the R1820s . . . "

"Cod, your interval is the F-4 abeam."

"What did he say?!"

"I'm not sure!"

"BOSS, where do you want the *Cod?!"*

"Roger, starboard delta until the air wing is recovered!"

"Cod, watch the A-7 off the cat!"

Minutes later . . .

"Cod, we'll take you after the recovery!"

"So we come aboard as the ship is in the turn away from the wind with only a small quartering tail wind. Hope your passengers enjoyed the flight! Then once on deck you are usually pressed for time. Frequently the ATO (air transfer officer) is opening the cargo door and wants to unload and load passengers without shutting down the port engine."

"What? Why not? Our *Cod* does it all the time!"

"Yah, I know, but we don't."

"The passengers should be briefed and manifested on the ship. I shiver to think of the consequences of having to ditch a *Cod* a few minutes after launch, lose some passengers, and then find out that the passengers were not briefed on survival gear. Or discover that the ship did not know who was on the aircraft because no manifests were left on the ship, and yours is wet. And what about next of kin forms? Covered by official records, right? Wrong again. We transport a large number of civilians for a variety of reasons. You could say that these are all aircraft commander responsibilities as outlined in C-1A NATOPS or OPNAV 3710.7H, and you would be right. But quite frankly, it takes a hell of a man to keep telling the air boss 'I'm not ready yet!' The real point is, a lot of the preparation and briefs could and should be done by the ship, as outlined in CV NATOPS.

"It has been so long since we've lost a *Cod* in ship ops that many of the attitudes you will encounter are extremely lax. THE *COD* CAN DO ANYTHING: come aboard with ice on the flight deck; launch into a thunderstorm; change overhead times over the HF with 30 minutes notice and still arrive at the CV on time with a full bag of mail and people, no logistics problem even considered. What a flail! That is the way it has been. It kind of reminds me of the saying: 'WE HAVE DONE SO MUCH WITH SO LITTLE FOR SO LONG THAT NOW WE ARE EXPECTED TO DO EVERYTHING WITH NOTHING –

FOREVER.'

"A couple of situations seem to come up over and over. For instance, you are in starboard delta and the sun is starting to set, so you tactfully try to say, 'Hey, boss, I need to get on and off by sunset!' You will probably get a comment like: 'Sunset is 1730, no, I mean 1800, and what's the matter? Are *Cod* pilots afraid to fly in the dark?'"

"You laugh it off and say 'Just checking.' You really wonder how this guy got to be the air boss. Of course I can fly at night. In fact, I love it! Except, if I get launched and lose an engine, I'm in real trouble. I can't really return to land aboard since I'm not night qualified. I have never made a night carrier landing! So now I'm 200 miles at sea with no one to escort me home. I'll be IFR all the way, praying my other engine holds together. If it doesn't, then we will all go swimming – all 11 of us – the crew, the admiral, his aides, the second class, and that other emergency leave. The middle of the cold Atlantic is not a great place to be when darkness sets in for a long, lonely night. The next day there will be many people with egg on their faces, playing a big game of pointing fingers and 'I told you so.'

"So you add, 'Boss, sorry. Mickey tells me it's 1750 and my flight suit is turning to rags, and I've got to get this *Cod* home before it turns orange. See you tomorrow.'

"Anyway, Paul, we could go on and on. Yet, I am really trying to say that we have never lost a passenger in this squadron, and we never want to! So, as a *Cod* pilot, remember that the people sitting in back have placed a supreme confidence in you. To protect them, you will need a lot of help from many people – controllers, air bosses, LSOs, cat officers, yellow shirts, other pilots – you name them – you'll depend upon them!

"Your judgment will mean life or death for a planeload of people – SOMETHING TO THINK ABOUT!

"Now, let's go pick up the admiral and have a safe, enjoyable day flying to the boat!" ◄

Any Lower and . . .

THE HAC of an SH-3D was cruising at 1000 feet in the clag when the copilot's gyro off flag appeared. A few seconds later the helicopter rolled rapidly 70 degrees to the left. Both the pilot and copilot glimpsed the copilot's gyro tumbling.

The HAC applied rapid correction to the right, which caused the helo to roll rapidly right to 75-80 degrees, and 30-40 degrees nosedown. The HAC was able to override the ASE, which was quickly secured. The starboard gyro was selected, and the aircraft stabilized at 125 feet. An uneventful landing aboard ship was made. Immediately thereafter, smoke was seen coming from the doppler well.

The troubleshooter replaced the failed copilot's gyro; however, no one was able to find the source of the smoke in the doppler well. As a precaution, the ASN-50 power supply was also replaced. The helicopter was returned to flight status and operated normally. ◄

Letters

Good Article

Summerville, SC – I would like to congratulate LCDR Bob Jones of VA-37 on his excellent article, "The Launch," DEC '76 APPROACH. All aviators must be able to see themselves to some extent in this well written article.

Lieutenant Commander Jones has done a masterful job of bringing us to the attention of ourselves.

LT James P. Swoope

Leadership at Safety Standdowns

FPO, New York – Richard Shipman's article in the JAN '77 issue ("The Safety Standdown: Has it outlived its usefulness?") was right on target. We had our standdown scheduled for a "back in the saddle" review the second week of January as usual. The commanding officer was scheduled to give the opening remarks at 0800. At 0815, he called Admin to report he was still at home. He never showed for the opening remarks or for any other scheduled event the first *or* second day. Ironically, the first event of the standdown was a movie entitled "Safety Is Your Business," which depicts the CO giving verbal support to the safety program.

The second day quarters were scheduled for 1330, to be led by the CO, after which a FOD walkdown was scheduled. At 1235, there was a light drizzle that stopped by 1305. Nevertheless, the CO cancelled quarters, and it did not rain or drizzle or even threaten for the rest of the day. The CO also failed to show for his scheduled ditch/bailout drill and survival equipment brief. Needless to say, in the eyes of all concerned in the squadron, both groundpounders and flightcrew, the lack of participation by the CO in anything precipitated an atmosphere of "If he doesn't care, why should we?"

Name Withheld

Don't Joke About LSOs

NAS Pensacola, FL – I read your article "Harrier in the Groove" in the JAN '77 issue and am quite appalled with several statements in the article. My professionalism as a "fixed nozzle" carrier aviator and a "retired" air wing LSO is offended by describing the normal carrier pass as "where the pilot gets high in-close and comes to idle during his play for the deck." The statement concerning having to "depend on the LSO" and "information regarding any drifts which might develop (and everybody knows how much you can trust an LSO)" is an insult to all LSOs. Since the inception of carrier aviation, LSOs have saved many aircraft and lives. Any carrier aviator that does not completely trust his LSO is an accident waiting to happen. An aviator does not have to like his LSO personally, but any lack of explicit communications is disastrous. Your magazine is supposed to promote safety, not undermine years of building the aviator's confidence in the capability of the LSO to safety control a carrier approach under all conditions.

LCDR Gerald W. Knott
VT-4 ASO

• We would like to assure you (and we, apparently mistakenly, thought it would be obvious) that the comments you refer to were made in jest. The author of the article, LT Kiffer, is an experienced LSO, currently attached to the Naval Air Test Center Carrier Suitability Branch. As an LSO himself, he felt he was in a position to make those tongue-in-cheek remarks. We definitely agree with your comments about the importance of the LSO, and we certainly would not want to do anything to undermine his position. All standard LSO jokes aside, any pilot who doesn't trust his LSO and believe in his calls is asking for trouble.

Say It Again, Sam

NAS Norfolk, VA – Refer to the article, *"Harrier* in the Groove," in the JAN '77 APPROACH. The problems stated by the author, with regard to taking off from and coming aboard a CV, sound very familiar to us in the helicopter community.

I've been in helos for over 16 years, have operated from big decks for 8 years, and from smaller platforms for 3 years. The principle difference between the stated experiences in the article and my experiences seems to be one of terminology.

It appears, however, that the author had an avid listener driving that big bird farm, and the discussed problems were resolved. Oh, how I wish that were the case 16 years ago! Now a rotary-nozzle type is talking to a fixed-nozzle type in stiff-wing language and – lo and behold – somebody listened! Just maybe the hovering community won't be up against that age-old philosophy anymore, that "The helo is a magic, antigravity machine that can take off, land,

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and carry anything, in any wind, from any spot big enough to put it." (Refer to CDR Mike Marriott's article, "Twenty-Five Years... and Still Holding!" NOV '73 APPROACH.)

The author's identification of takeoff or landing problems with spots I, IA (that's a new one), II, and III, his description of sink rate just before touchdown, the mirror approach, and the need for good visual cues and good winds all sound familiar. It warms my heart to see this fine attempt at bringing knowledge and wisdom to big deck operators and drivers, and maybe the future will produce a community of nonparanoid hover aviators.

As a matter of interest, our black-shoe brothers (old style) on the frigates, from which HSL-36 LAMPS operate, all listen, all understand, and do their level best to always give optimum conditions. 'Nuff said.

CDR Vincent L. Onslow
CO HSL-36

Re "Helicopter IFR Minimums"

MARTD, NAS Willow Grove, PA – I admired LT Corkern's can-do attitude in the JAN '77 issue of APPROACH, "Helicopter IFR Minimums," and I also realize that the HS community operates frequently on the gages under low ceiling and low visibility conditions. This is commendable and they have my respect. However, his suggestion that helo IFR minimums be reduced below those already existing for fixed-wing aircraft lacks sound judgment and could place a valuable aircraft outside the realm of safe flight.

The obsolete approach/landing minimums that he claims are based on fixed-wing stall speeds and maneuvering criteria are in fact based upon more important factors than these. In reality, they are based on: (1) airport and runway facilities, i.e., precision approach capability, lead-in lights, touchdown and centerline lighting, runway remaining, and turnoff lights; and (2) the avionics and stabilization equipment onboard the aircraft, i.e., SAS, ASE, AFCS, radios, radar altimeter.

LT Corkern pointed out technology has done much to transform the helicopter into a stable instrument platform. However, until the Navy/Marine Corps provides our aircraft with a coupled autopilot approach capability and a head-up display system, I believe that lowering the approach/landing minimums for helicopters would be courting disaster.

Another statement that LT Corkern made that drew my attention was our ability to slow our airspeed considerably during the final approach segment and remain fully maneuverable. While this is true, it also may place us in an area wherein the performance of our SAS is degraded. Although the means to fly low-limit approaches are available, the Navy/Marine Corps helicopter inventory is not yet so equipped. Until that day arrives, the present approach/landing minimums are fine.

Capt Louis B. Stefan, USMCR
MAG-49, 4th MAW

(See next letter.)

NAS Norfolk, VA – Great jumpin' horned toadies! There goes another helo guy demonstrating why we are our own worst enemy. Truer words were never spoken than those saying that "We in the helicopter community must bear a major portion of the blame." For we consistently scream about being accepted into the air traffic control system as just another aircraft, with equal rights and priorities, and then we turn around and ask for special rules and treatment because of our unique capabilities so we can fully attain our potential.

Well, I say poppycock and horsefeathers! The best thing that can happen to helicopters is for them to be treated the same as any other aircraft in the system. That means leave the cotton-pickin mirror ON after the recovery is complete, so the old helo can get aboard *too!* That means giving the "angry palm tree" the same preferred routing in his IFR clearance as the stiff-winger – even though the helicopter is slower. So what! There are plenty of provisions for the helo to operate with its unique capabilities incorporated in the present system. Special VFR, when used for operational necessity, is an excellent example, but I don't want to be tied to it for every training mission and milk run that comes along. If a helicopter pilot routinely is operating outside of controlled airspace at visibilities of less than 1 mile, then his routine probably needs to be examined again and the benefits of his actions weighed against the degradation in safety margins such operations necessitate. SVFR is a far cry from routine operations at visibilities less than a mile, and most professionals I know will balk at taking less than a mile unless the mission is supercritical.

One final word. Automatic approaches, especially with coupled doppler, are a far cry from nonprecision approaches, when the field is below VFR, or even worse, a precision approach when the field is 200 and one-quarter. Some of the hottest tactical pilots I've known were also the worst at busting minimums on that old devil instrument check. As an old instrument check pilot, I can tell you that the average helo pilot on airways after 6 months of tactical flying probably needs higher minimums than the stiff-winger, because of his minimal practice at the kind of point-to-point flying the old welded-wings do every time they break the deck.

LCDR Mariner G. Cox
ASW Training, FASOTRAGRULANT

When in Doubt, Call Us Out

MCAS Beaufort, SC – I am a member of the crash crew here at MCAS Beaufort. Our duty is to save the lives of pilots who have crashes during takeoffs and landings – the most dangerous part of any flight. In order to do as good a job as possible, we have to have the pilots' cooperation. If they let us know they have an emergency far enough in advance, we can be in position to give them the best help. But if they don't let us know there is a problem, precious minutes are lost getting to the site of the accident.

I'm sure pilots are tempted every once in a while to ignore warning lights in the cockpit and call them instrument malfunctions. Or maybe they are tempted to disregard the tower's advice of suspected hot brakes after landing because they are anxious to get in from the long flight and have a hot cup of coffee. Are you one of those pilots who has done this sort of thing one time or the other? Well, don't!

If you have an emergency or suspect you have one, let us know about it right away. We don't mind being called out. That's our job. In fact, our motto is "When in doubt, call us out." Improve *your* chances of survival by increasing the amount of warning you give us. Thank you.

Cpl R. G. Monaco
H&HS Squadron Crash Crew

● **Thank *you.* Your words of advice are sound, and many pilots are alive today because of the prompt, professional work of dedicated crash crewmembers like yourself.**

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approach

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A Naval Safety Center Publication

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CREDITS/The F-18 — the Navy's choice for its future lightweight fighter and light attack aircraft. Painting by R. G. Smith, courtesy of McDonnell-Douglas Aircraft Co. **IFC** (bottom), **pgs. 5** and **7** photos: courtesy USAF.

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Flat on my back and didn't know it!

THERE I was – flat on my back and didn't know it! How can an experienced pilot give himself a quasi-emergency? I know *how,* but not *why.* Here's what happened and how I did it to myself.

An A-7E postmaintenance checkflight is not the easiest profile to fly, but after a few of them, you begin to be, not complacent, but relaxed. As part of the flight, I had introduced a little procedure of my own that seemed effective. In the zero G maneuver, designed to clean out FOD from the cockpit floor, I found it much easier to set 3 degrees of trim, roll inverted, and use both hands to pick out any debris that might float up and suspend itself. This particular day I was between layers picking up a ball of lint and a stray ballpoint pen, when the MASTER CAUTION light started flashing. As my heart was going to my throat, my scan went something like this: Caution light: OIL PRESSURE! Oil pressure gage: 7 psi! HUD: aircraft nose on horizon; attitude gyro: wings level; RPM and TOT stable. WAIT A MINUTE! Attitude gyro – the black is on top! So I rolled the airplane right-side-up (which naturally solved the emergency), and I sat back to contemplate my stupidity.

Or was it that stupid? The situation had classic ingredients of an accident: a large distraction that made me forget an unusual position, and the visual references looked OK. There was no ground reference; the HUD looked about the same inverted; I had no feeling of hanging in the straps; and I was in hands-off, straight and level flight. That last one still amazes me. The pressure of a first-class emergency completely blanked out normal reflexes. I have often wondered, if I hadn't noticed the gyro, would I have felt any pressure on the straps before exceeding the inverted fuel limit? A flameout at that point would have been a real devil to analyze. The mind reels with possibilities (all negative) if that had happened. I am just glad that I forced myself to look over the whole situation before reacting.

Upsidedowninvertedmouse

BEND A LITTLE

THE FOD YOU PICK UP MAY SAVE A LIFE...

YOURS!